IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An IPATM transmission network that supports multipoint-to-multipoint multi-casting between groups of end points, said network comprising:

a plurality of nodes;

a plurality of endpoints adapted to act as data senders, or receivers, said nodes and endpoints being linked by ATM, said IPATM transmission network adapted t support multipoint-to-multipoint multi-casting between a group of endpoints, characterized in that wherein at least one sender and all receivers, belonging belong to a multi-casting group of endpoints, the at least one sender and all receivers are located on a single spanning delivery tree, and in that only one VC virtual circuit (VC) is employed to transmit data over said single spanning deliver tree, that;

a group having members closely located to each other, uses configured to use a multi-cast group address held by an MNS server located close to said group members; and in that an

the MNS server located close to said group members is selected by[[:-]]a host requesting its a local MNS server for a new multi-cast group address from a host[[;]], said local MNS server supplying being configured to supply a multi-cast address from its own addresses[[;]], or [[-]]if said local MINIS server has no unused addresses, said local MNS server suppling being configured to supply an address for a nearest located other MNS server if said local MNS server has no unused addresses.

Claim 2 (Currently Amended): An IPATM transmission network that supports

multipoint-to-multipoint multi-casting between groups of endpoints, said network

comprising:

a plurality of nodes;

a plurality of endpoints adapted to act as data senders, or receivers, said nodes and

endpoints being linked by ATM, ~~said IPATM transmission network adapted t support~~

~~multipoint-to-multipoint multi-casting between a group of endpoints, characterised in that~~

~~said~~

wherein said IPATM transmission network includes means for building a single

spanning delivery tree between at least one sender and all receivers, ~~belonging~~ that belong to

a multi-casting group of endpoints, and ~~in that~~ only one [[VC]] virtual circuit (VC) is

employed to transmit data over said single spanning delivery tree.

Claim 3 (Currently Amended): An IPATM transmission network, as claimed in claim

1, ~~characterised in that~~ wherein said single spanning delivery tree is a CBT rooted in a core

node.

Claim 4 (Currently Amended): An IPATM transmission network, as claimed in claim

3, ~~characterised in that~~ wherein said CBT is built at [[t]] an ATM level.

Claim 5 (Currently Amended): An IPATM transmission network, as claimed in claim

3, ~~characterised in that~~ wherein said IPATM transmission network includes relocation means

for relocating the core.

Claim 6 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that~~ wherein said IPATM transmission network is adapted to have more than one active core, said ~~cores~~ more than one active core being geographically remote from each other.

Claim 7 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that there is provided~~ further comprising forwarding means ~~adapted to forward~~ for forwarding traffic only to those branches of said single spanning delivery tree where said traffic is required.

Claim 8 (Currently Amended): An IPATM transmission network, as claimed in claim 7, ~~characterised in that~~ wherein operation of said forwarding means does not depend on ~~core~~ a location of a core.

Claim 9 (Currently Amended): An IPATM transmission network, as claimed in claim 3, ~~characterised in that~~ wherein said IPATM transmission network includes MNS means ~~adapted to provide~~ for providing an ATM address for ~~the~~ a core, on receipt of an [[I]] IP multi-cast address.

Claim 10 (Currently Amended): An IPATM transmission network, as claim in claim 9, ~~characterised in that~~ wherein said MNS means is adapted to provide core point management and multi-cast group management.

Claim 11 (Currently Amended): An IPATM transmission network, as claimed in claim 9, ~~characterised in that~~ wherein said MNS means includes a hierarchy of MNS servers.

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Claim 12 (Currently Amended): An IPATM transmission network, as claimed in claim 9, ~~characterised in that~~ wherein said IPATM transmission network has only one MNS server, ~~and in~~ that said only one MNS server is responsible for all multi-cast group addresses.

Claim 13 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that~~ wherein said MNS means includes border routers adapted to translate between protocols thereby enabling said MNS means to co-exist with other multicast protocols.

Claim 14 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that~~ further comprising means ~~are provided to permit~~ for permitting leaf initiated join.

Claim 15 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that means are provided to facilitate~~ further comprising means for facilitating an endpoint to switch from functioning as a sender to functioning as a receiver.

Claim 16 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that means are provided to facilitate~~ further comprising means for facilitating an endpoint to switch from functioning as a receiver to functioning as a sender.

Claim 17 (Currently Amended): An IPATM transmission network, as claimed in claim 1, ~~characterised in that means are provided to enable~~ further comprising means for

enabling a new member to join a group, said means being adapted to cause a join message to

be propagated towards <u>a core of</u> said ~~group's core~~ <u>group</u>.

Claim 18 (Currently Amended): An IPATM transmission network, as claimed in

claim 1, ~~characterised in that~~ <u>wherein</u> multipoint-to-multipoint connections are provided at

the ATM level.

Claim 19 (Currently Amended): An IPATM transmission network, as claimed in

claim 1, ~~characterised in that~~ <u>wherein</u> ATM switches in said IPATM transmission network

are adapted to behave as store and forward units in the presence of contention, <u>and to behave</u>

<u>as cell switches</u> in the absence of contention.

Claim 20 (Currently Amended): An IPATM transmission network, as claimed in

claim 1, ~~characterised in that~~ <u>further comprising</u> a VC merging means ~~is provided~~ for

preventing interleaving of ATM cells[[,]]<u>;</u> and ~~in that~~

a core selection means ~~is provided to optimise~~ <u>for optimising</u> the shape of a <u>structure</u>

<u>of a</u> spanning delivery ~~tree's structure~~ <u>tree</u>.

Claim 21 (Currently Amended): ~~In~~ <u>A method of multipoint-to-multipoint multi-</u>

<u>casting in</u> an IPATM transmission network comprising a plurality of nodes and a plurality of

endpoints adapted to act as data senders, or receivers, said nodes and endpoints being linked

by ATM, ~~a method of multipoint-to-multipoint multi-casting characterised by~~ <u>said method</u>

<u>comprising:</u>

building a single spanning delivery tree between at least one sender and all receivers<u>,</u>

~~belonging~~ <u>that belong</u> to a multi-casting group of endpoints<u>;;</u> and ~~by~~

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employing only one ~~VC~~ virtual circuit VC to transmit data over said single spanning delivery tree.

Claim 22 (Currently Amended): A method, as claimed in claim ~~1~~ 21, ~~characterised by~~ wherein said single spanning delivery tree ~~being~~ includes a CBT rooted in a core node.

Claim 23 (Currently Amended): A method, as claimed in claim ~~1, characterised by~~ 21, further comprising relocating the core to optimise a structure of said spanning delivery ~~tree's structure~~ tree.

Claim 24 (Currently Amended): A method, as claimed in claim 21, further comprising ~~1, characterised by~~ forwarding traffic only to those branches of said single spanning delivery tree where said traffic is required.

Claim 25 (Currently Amended): A method, as claimed in claim 22, further comprising propagating ~~1, characterised by~~ join requests[[,]] from receivers and senders~~,~~ ~~propagating~~ towards said core.

Claim 26 (Currently Amended): A method, as claimed in claim 22, further comprising ~~1, characterised by said IP ATM transmission network including MNS, said MNS~~ providing an ATM address for the core for said MNS, when given an ~~I~~ IP multi-cast address.

Claim 27 (Currently Amended): A method, as claimed in claim 21, further comprising ~~1, characterised by~~ replicating packets only on branches of said spanning delivery tree where they are needed.

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Claim 28 (Currently Amended): A method as claimed in claim 26, ~~characterised by~~ <u>further comprising</u>:

[[-]]configuring a host ~~wishing~~ <u>seeking</u> to use said MNS with an ATM address for a local MNS server;

[[-]]~~said host, when it wishes to become a member of multi-casting group,~~ transmitting a query to a local MNS server for an address for the core of said multi-casting group <u>from said host when it seeks to become a member of a multi-casting group</u>;

[[-]]~~said local MNS server, if it is responsible for the group,~~ replying with an ATM address for the core <u>from said local MNS server if it is responsible for the multi-casting group</u>;

[[-]]~~if said local MNS is not responsible for the group,~~ passing the query between MNS servers~~,~~ in a MNS hierarchy~~,~~ until ~~it~~ <u>the query</u> reaches a MNS server which is responsible for said group and said responsible MNS server replying to the querying host <u>if said local MNS server is not responsible for the group</u>~~,~~;

[[-]]<u>wherein</u> said MNS hierarchy ~~starting with~~ <u>includes</u> a root MNS server which knows~~, at the next level,~~ which server <u>at the next level</u> is responsible for which intervals of multi-cast address space~~;~~<u>, and</u> [[-]]second level MNS servers ~~knowing~~ <u>are configured to know</u> how an address range they are responsible for is divided into smaller address intervals and which third level MNS server is responsible for which address interval; and

[[-]]sending queries through the MNS server hierarchy[[,]] until <u>reaching</u> the MNS server[[,]] ~~which~~ <u>that</u> holds the tables for the groups <u>for which</u> it is responsible ~~for is reached~~.

Claim 29 (Currently Amended): A method, as claimed in claim 27, ~~characterised by~~ <u>further comprising</u>:

starting every MNS server ~~starting~~ with an empty table[[,]]; and ~~by~~

dynamically creating entries therein.

Claim 30 (Currently Amended): A method, as claimed in claim ~~7, characterised by~~ ~~realising query passing in two different ways, namely:~~ 28, wherein said transferring the query further comprises:

[[-]]~~if an MNS server is not responsible for a group,~~ passing a query to a root MNS server, which passes it on, ~~or~~ if an MNS server is not responsible for a group; and

[[-]]passing a query only one level up the MNS hierarchy, and not directly to the root MNS server.

Claim 31 (Currently Amended): A method, as claimed in claim ~~6, characterised by~~ 26, further comprising

registering the core node for a multi-cast group with the MNS server responsible for the group; ~~and, if a query arrives at MNS server about a group and no core is specified for the group, by~~

electing the switch that sent the query as the core if a query arrives at the MNS server about a group and no core is specified for the group, ~~and by~~ said switch being able to decline nomination as the core; and~~, if said switch does not accept nomination as the core, by~~

not establishing a spanning deliver tree if said switch does not accept nomination as the core.

Claim 32 (Currently Amended): A method, as claimed in claim ~~5, characterised by a~~ ~~group having members closely located to each other,~~ 26, further comprising:

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using a multi-cast group address held by an MNS server located close to ~~said~~ group

members,~~and~~ in a group having members closely located to each other; and

~~by~~ selecting an MNS server located close to said group members by ~~means of the~~

~~following steps: a host~~ requesting ~~it's~~ a local MNS server for a new multi-cast group

address,~~;~~[[-]] said local MNS server then being responsible for supplying a multicast address

from its own addresses; ~~or,~~ and [[-]] ~~if said local MNS server has no unused address, said~~

~~local MNS server suppling~~ supplying an address for the nearest other MNS server to said

local MNS server if said local MNS server has no unused address.

Claim 33 (Currently Amended): A method, as claimed in claim ~~1, characterised by~~

21, further comprising causing a join message to be propagated towards a core of said ~~group's~~

~~core~~ group when a new member ~~indicates a desire~~ seeks to join a group.

Claim 34 (Currently Amended): A method as claimed in claim ~~1, characterised by~~ 21,

further comprising:

transmitting a leave message towards a core of said group over the spanning delivery

tree associated with the group ~~towards said group's core~~ when a member of that group

~~indicates a desire~~ seeks to leave the group, ~~by~~ said leave message travelling until it reaches a

first junction of said spanning delivery tree~~,~~; and

~~by~~ removing that part of said spanning delivery tree over which said message has

travelled.

Claim 35 (Currently Amended): A method, as claimed in claim 21, ~~characterised by~~

~~group members~~ further comprising periodically sending an "I am alive" message from group

members to neighbouring nodes, or endpoints.

Claim 36 (Currently Amended): A telecommunications system, ~~characterised in that~~ wherein said telecommunications system includes an IPATM transmission network as claimed in claim 1.

Claim 37 (New): An IPATM transmission network that supports multipoint-to-multipoint multi-casting between groups of endpoints, said network comprising:

a plurality of nodes;

a plurality of endpoints adapted to act as data senders, or receivers, said nodes and endpoints being linked by ATM,

wherein said IPATM transmission network includes a single spanning delivery tree building device configured to build a single spanning delivery tree between at least one sender and all receivers that belong to a multi-casting group of endpoints, and only one virtual circuit (VC) is employed to transmit data over said single spanning delivery tree.